

Financial Globalization and the Russian Crisis of 1998

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Abstract

Russia had more-or-less completed the privatization of its manufacturing and natural resource sectors by the end of 1997. And in February 1998, the annual inflation rate at last dipped into the single digits. Privatization should have helped with stronger micro-foundations for growth. The conquest of inflation should have cemented macroeconomic credibility, lowered real interest rates, and spurred investment. Instead, Russia suffered a massive public debt-exchange rate-banking crisis just six months later, in August 1998. In showing how this turn of events unfolded, the authors focus on the interaction among Russia's deteriorating fiscal fundamentals, its weak micro-foundations of growth and financial globalization.

They argue that the expectation of a large official bailout in the final 10 weeks before the meltdown played an important role, with Russia's external debt increasing by \$16 billion or 8 percent of post-crisis gross domestic product during this time. The lessons and insights extracted from the 1998 Russian crisis are of general applicability, oil and geopolitics notwithstanding. These include a discussion of when financial globalization might actually hurt and a cutoff in market access might actually help; circumstances in which an official bailout could backfire; and why financial engineering tends to fail when fiscal solvency problems are present.

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FINANCIAL GLOBALIZATION AND THE RUSSIAN CRISIS OF 1998

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¹ Both authors are at the World Bank. This paper is an invited submission to the Elsevier Encyclopedia of Financial Globalization. The findings, interpretations and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent. We dedicate this paper to the loving memory of Claire Pinto, daughter and dear friend, who was present in Moscow during the events described here.

1. Introduction

Russia's 1998 meltdown is yet another instance of financial globalization being linked to a crisis in an emerging market instead of better resource allocation and faster growth.² On August 17, 1998, the Russian government devalued the ruble and announced a forced restructuring of its ruble debt obligations falling due to the end of 1999, the face value of which was \$45 billion at the pre-crisis exchange rate. It also declared a 90-day moratorium on settlements of private external debt, short positions on currency forwards and margin calls on repurchase (repo) operations to help its commercial banks, which were heavily exposed to government debt. But the big, private Moscow banks ended up collapsing anyway, with depositors given the alternative of transferring their deposits to the state-owned savings bank, Sberbank.

The Russian public debt-exchange rate-banking crisis came on the heels of an external financial liberalization which began in January 1997 with a progressive removal of restrictions on foreign participation in the lucrative ruble Treasury bill and notes (GKO-OFZ) market—which we shall refer to as the “GKO market”—and in the stock market. This facilitated spillovers from the East Asian crisis as Korean and Brazilian investors began exiting the GKO market in October 1997 as a result of liquidity pressures at home. This sequence does not mean that financial globalization *caused* the Russian crisis. But it amplified vulnerability stemming from Russia's combination of a fixed exchange rate and adverse government debt dynamics by prolonging an unsustainable fiscal position. It did so at first by lowering interest rates on government debt and then by continuing to finance the build-up of government debt after May 1998 even when it became apparent that a fundamentals-based crisis was all but inevitable along the lines of

² We shall refer to this crisis variously as Russia 1998, the Russian meltdown or the devaluation and default of August 1998.

Krugman (1979), Flood and Garber (1984) and Sargent and Wallace (1981). This eventually led to a much bigger public external debt burden when events came to a head on August 17, 1998.

1.1 Global Context

In the *Emerging Market Crises Hall of Fame*--if there ever were such a thing--Russia 1998 would surely be assigned a place of distinction. It was preceded by the East Asian crisis of 1997-98, which began with the collapse of the Thai baht in July 1997, and then spread to envelope many of the prominent economies of East Asia. It was followed by Brazil in January 1999 and then Turkey and Argentina in 2000-01. Contagion from Russia 1998 led to a substantial rise in spreads on sovereign bonds in emerging markets and on long-term corporate bonds in industrial countries as well as a big increase in the volatility of these spreads. A Bank of International Settlements poll of market participants described the joint event of the August 1998 Russian meltdown plus the bailout of the hedge fund Long-Term Capital Management (LTCM) the following month as the “worst crisis” in recent times.³

A review of the events suggests that LTCM’s near-collapse was precipitated in part by the Russian meltdown. Dungey et al. (2006, p. 3) note that bond spreads, especially in emerging markets, spiked after the Russian devaluation and default as global credit risks were re-priced; LTCM had taken big bets on the expectation of falling spreads. Jorion’s (2000) post-mortem indicates that LTCM took a substantial hit soon after Russia’s August 17, 1998 meltdown. He reports that credit spreads rose sharply following the Russian “bombshell” while stock markets plunged. “LTCM lost \$550 million on August 21st alone” and 52 percent of its December 31 1997 value had been erased by the end of August 1998. Had LTCM been allowed to fail, the risks to the US and global financial system were judged to be catastrophic because of both its on-balance sheet (\$125 billion) and off-balance sheet (\$1.25 trillion in various derivatives) transactions. The forced deleveraging to meet margin calls would have resulted in a downward

spiral--to borrow language reminiscent of the more recent Great Recession. To stave off a systemic crisis, the New York Federal Reserve organized a bailout by encouraging 14 banks to invest \$3.6 billion for a 90 percent stake in LTCM. And the Federal Reserve Board eased monetary policy aggressively by cutting interest rates thrice in quick succession.⁴

1.2 The Country Crisis

Given the above, it is unsurprising that the contagion effects of Russia 1998 have been carefully studied.⁵ But the *country* crisis episode itself has received scant attention in the literature, perhaps because of the belief that the lessons may not have been transferable to other emerging markets given oil and Russia's special geopolitical position.⁶ In revisiting Russia 1998, we shall show that the lessons from it are of general importance. Indeed, paying closer heed to Russia 1998 might well have influenced the design of the international rescue packages for Argentina and Turkey in 2000-01, especially the former.

Our paper is organized as follows: section 2 analyzes the evolution of Russia's fundamentals during the three years preceding the August 1998 crisis. We argue that the crucial factor in Russia's crisis was an attempt to stamp out inflation while maintaining large subsidies to manufacturing firms. In section 3, we look at the role of financial globalization and argue that in the prevailing environment of pervasive soft budgets, financial liberalization merely postponed the day of reckoning while adding substantially to the government's external debt. In section 4, we present the lessons from Russia 1998 followed by a brief concluding section.

³ See Dungey et al. (2006) for details.

⁴ See Dungey et al. (2006).

⁵ In addition to Dungey et al (2006), see Calvo (1998) and Forbes (2000).

⁶ At one point, Russia 1998 even threatened to be injected into the 2000 US Presidential elections as an issue! Writing in the Washington Post ("Policymakers Debate: 'Who Lost Russia?'" page A1, September 12, 1999), Michael Dobbs and Paul Blustein noted: "The finger-pointing over 'Who lost Russia?' threatens to spill over into next year's US presidential election campaign. Foreign policy advisers to George W Bush

2. Russia's Three-year Road to the 1998 Crisis

By the end of 1997, Russia had more-or-less completed the privatization of its manufacturing and natural resource sectors. And in February 1998, annual inflation at last dipped into the single digits. In spite of these accomplishments, Russia experienced an economic meltdown just six months later. This section explains how this happened, showing that Russia's crisis was in the making for some three years.⁷

2.1 The Stabilization Program

We start with the inflation reduction. In mid-1995, Russia adopted a stabilization program with the goal of achieving single-digit inflation by 1997 and shrinking the fiscal deficit of the federal government to less than 3 percent of GDP by 1998. Its centerpiece was a fixed exchange rate as a nominal anchor for prices, to be supported by reductions in the fiscal deficit, a shift away from printing money to debt-financing of the deficit and restrictions on credit to the private sector.⁸ But real interest rates jumped to extraordinarily high levels and the real exchange rate appreciated sharply. The ex-ante short-term real interest rate averaged 56 percent between May 1995 and July 1997 (figure 1) while the ruble appreciated by some 55 percent in real terms against the US dollar over the same period (figure 2).

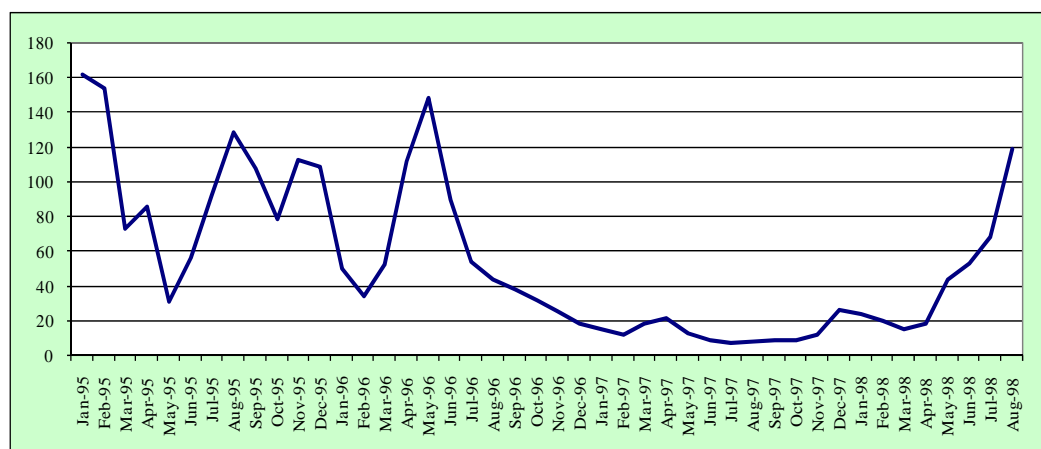
are attempting to link Vice President Gore to the failure of economic reform in Russia..." Of course, it was Russia 1998 which epitomized the 'failure'.

⁷ This section draws chiefly on Kharas, Pinto and Ulatov (2001); Pinto, Gurvich and Ulatov (2005); Pinto, Drebenstov and Morozov (2000a, b); and Commander and Mumssen (1999).

⁸ The exchange rate was fixed in the sense that it was managed within tight, pre-announced bounds relative to the level of prevailing inflation.

Figure 1: Real Short-term Interest Rates, January 1995 – August 1998^{a/}

(% per year)

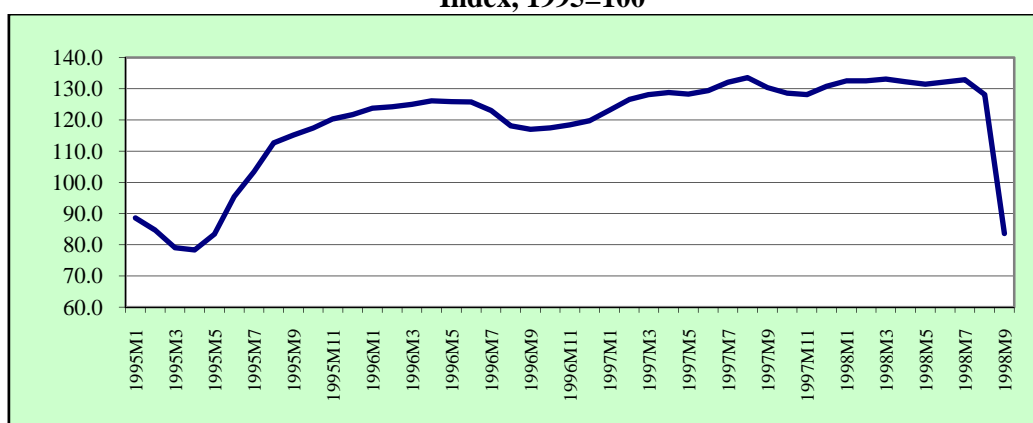


Source: Figure 1, Kharas, Pinto and Ulatov (2001).

a/ Average nominal secondary market GKO yield deflated by 12-month inflation target under IMF program.

Why did real interest rates jump to such high levels, effectively killing growth? For three reasons: first, as Table 1 shows, the original fiscal program targets agreed to between Russia and the IMF were met in 1995 but greatly exceeded thereafter; in fact, the fiscal deficit went up sharply after 1995 instead of shrinking.⁹ This meant more borrowing than anticipated, hurting credibility and pushing up real interest rates, especially as a domestic credit squeeze was simultaneously on to lower inflation.

Figure 2: Real Effective Exchange Rate, January 1995 – September 1998^{a/}
Index, 1995=100



Source: Figure 2 in Kharas, Pinto and Ulatov (2001).

a/ Ratio of Russian CPI to trade-weighted geometric mean of trading partners CPI times nominal exchange rate. Upward (downward) movement signifies appreciation (depreciation).

⁹ NB: the program targets were continually revised. What is relevant for a post-mortem is how actual developments compare with the *original* path envisaged for inflation and fiscal deficits.

Second, political risk was exceptionally high in 1996. Boris Yeltsin's ratings were at single-digit levels as late as March 1996, with elections scheduled for June. He finally staved off a spirited challenge from the communist party leader, Gennady Zyuganov, winning by a small majority in the second round. Third, the big Moscow banks, which served as primary dealers in the GKO market, had considerable monopsony power until external access was liberalized in January 1997 and this might have artificially boosted real interest rates. Note that real interest rates came down after Yeltsin was re-elected in July 1996 and dropped to below 20 percent after April 1997 as the GKO market was liberalized; but by then the nonpayments system had become entrenched, as we shall see in the next sub-section, preventing any beneficial impact on enterprises. Real interest rates then started rising again after the spillover from the East Asian crisis in November 1997.

Table 1: Macroeconomic Performance Over 1995-1998

Year	12-Month Inflation (%)		Fiscal deficit/GDP (%) ^{a/}	
	Original Program Target	Actual	Original Program Target	Actual
1995 (SBA)	63	131	6.0	5.7
1996 (EFF)	25	25	4.2	8.4
1997 (EFF)	9	11	3.2	7.0
1998 (EFF)	6	84	2.2	5.9 ^{b/}

Source: Table 2, Kharas, Pinto and Ulatov (2001).

Note: Russia's quest for single-digit inflation began in July 1995, supported by a three-year Extended Fund Facility (EFF) IMF loan stipulating inflation and fiscal deficit targets for 1996-98. The targets for 1995 had been set earlier in the context of an IMF Stand-By Arrangement (SBA).

^{a/}Deficit of the federal government on a commitments basis. ^{b/} Excluding overdue interest on GKO/OFZ.

The real appreciation of the ruble is easier to explain. As Dornbusch and Werner (1994) note, it is a frequent artifact of exchange rate-based inflation reduction programs: by design, the depreciation of the nominal exchange rate is kept much lower than the prevailing rate of inflation, which converges to the target rate of currency depreciation only slowly over time. This could lead to substantial real appreciation and even overvaluation in the interim if productivity increases do not keep pace. This is in fact what happened in Russia after mid-1995, when the

stabilization program began. As Figure 2 shows, the real exchange rate appreciated until around 1997 and then stayed at that level until the meltdown of August 1998, at which point it plunged along with the ruble.

2.2 Impact on the Enterprise Sector

Privatization did not lead to more efficient and better-run enterprises in Russia. The first reason was the nature of the privatization program itself. Some 15,000 industrial enterprises were “mass privatized”, with control often going to insiders. In the “loans-for-shares” scheme carried out in late 1995, Russian banks lent the government money collateralized with the shares of valuable companies in oil, metals and telecoms, with the proviso that if the loans were not repaid, the banks would acquire the shares. The loan size was determined via auctions that were not transparent, and suspected to be rigged.¹⁰ In the circumstances, good corporate governance would take a long time to emerge.

The next two reasons all but ensured that enterprises were not going to restructure and further that the incentives for managers would be biased towards asset stripping. The first was the punishing macroeconomic environment described above. No manager however good can operate in a situation where real interest rates are in excess of 50 percent and the real exchange rate is appreciating rapidly over a prolonged period.

The second was equally compelling but much more pernicious: the proliferation of soft budgets via the so-called “nonpayments system.”¹¹ Nonpayments consisted of two parts: (i) arrears, or overdue payments, which grew from 15 percent of GDP at end-1994 to an astonishing 40 percent of GDP at end-1998; and (ii) growing use of non-cash settlements (NCS), in enterprise operations. NCS included barter, typically in a chain involving several enterprises facilitated by an intermediary; offsets or the mutual cancelation of arrears, of which the most common kind was the provision of goods and services in lieu of tax payments, known as “tax offsets”; and veksel

¹⁰ See Lieberman and Veimetra (1996); Blasi et al (1997); Black et al (2000);

or promissory notes issued by enterprises, banks or the government. Nonpayments grew rapidly between 1995 and 1998 and became entrenched as the most common way for enterprises to conduct business—in effect becoming a new form of industrial organization. This happened roughly in the following sequence:

Initially, nonpayments was a survival response by enterprises. Those in heavy industry or the old military-industry complex were apt to have the highest share of sales in the form of barter and those selling fast-moving consumer goods the lowest, as confirmed by enterprise surveys.

Subsequently, nonpayments grew spectacularly over 1995-98 coinciding with the high real interest rates and real appreciation of the ruble engendered by the stabilization program; the analysis in Commander and Mumssen (1999) suggests that this was more than coincidence; the high real interest rates *caused* a distinct preference for barter and other forms of NCS.

Interestingly enough, the government itself became a primary instigator. Over the 1995 – mid 1998 disinflation, NCS accounted for as much as 50 percent of spending by regional governments, while money surrogates and tax offsets averaged over 20 percent for federal government non-interest spending. The government's example was quickly emulated by enterprises, giving them an excuse to deliberately run up tax arrears that could be settled at a lower cost through offsets (which incorporated tax forgiveness through the use of inflated prices when taxes were paid in kind). This was a major factor legitimizing tax arrears and contributing to the persistent shortfall of cash taxes over 1996-98.

Nonpayments morphed into an entrenched habit when profitable, cash-rich enterprises joined the bandwagon. They 'gamed' the system, running up tax arrears which could then be settled at a discount in kind; bought monetary surrogates from struggling enterprises—which had received these from the government in exchange for their unsaleable goods—at a discount, then

¹¹ The discussion here is based mainly on Pinto, Drebenstov and Morozov (2000a, b).

redeeming them at full face value to pay their taxes; and most perniciously, shifted profits to intermediaries set up and owned by them through arbitrary transfer pricing. This was an ideal environment in which to strip enterprise assets for personal enrichment and led to a vicious circle: with its taxes flagging, inadequate expenditure control and sky-high real interest rates, the government intensified its own use of arrears and monetary surrogates.

What were the government's motives? Apart from its desire to economize on cash because of the high real interest rates, it wanted to prevent mass bankruptcy among manufacturing enterprises struggling with the rigors of the stabilization program. While never explicitly articulated, various government actions suggested an attempt to keep enterprises afloat and avoid open unemployment at all cost. Such actions included interference by regional governors in preventing non-paying enterprises from being disconnected by the local utility company; customizing tax exemptions, including tax offsets at inflated prices; and giving local companies preference for state orders. The stoppage of directed credits at the beginning of 1995 and curtailment of explicit budgetary subsidies for enterprises at the federal level over the 1995 – mid 1998 disinflation were eventually more than offset by growing implicit subsidies.

Estimates of the size of the subsidies to the manufacturing sector implicit in nonpayments are presented in Pinto, Drebensov and Morozov (2000a, b). While arrears were treated as a 100 percent subsidy (it was realistically assumed no one expected to recover on arrears), a 23 percent subsidy rate was applied to tax offsets and energy payments on the assumption that in-kind payments inflated prices by 30 percent.¹² Implicit subsidies to manufacturing were estimated at 8-12 percent of GDP in 1996 and 7-10 percent of GDP in 1997. Add to this the explicit budgetary subsidy of 8 percent and total subsidies to manufacturing were 15-20 percent of GDP in 1996 and 1997. No wonder asset stripping intensified and the stabilization collapsed. Thus,

¹² The noncash price inflation of 30 percent came from estimates used in the Ministry of Finance. The gas monopoly Gazprom once offered cash discounts of 30 percent, but there were no takers, suggesting

nonpayments killed growth and as we shall see in the next sub-section, eventually led to instability in the government's debt dynamics.

2.3 Impact on Government Debt

We start with the standard difference equation for government debt. In equation (1), d is the government debt-to-GDP ratio, pd the ratio of the primary fiscal deficit (noninterest spending minus revenues) to GDP, $ndfs$, the ratio of non-debt financing sources to GDP (such as sales proceeds from privatization), r the real interest rate paid by the government on its debt obligations and g the real growth rate of GDP with t denoting the year.¹³

$$(1) \quad d_t - d_{t-1} = (pd_t - ndfs_t) + \frac{(r_t - g_t)}{(1 + g_t)} d_{t-1}.$$

As expected from large fiscal deficits over 1995-97, the increase in *nominal* debt measured in US dollars was substantial over this period, as Table 2 shows; but, in spite of large primary fiscal deficits, sizable interest payments and negative (or small positive) growth, the debt-to-GDP ratio remains roughly constant over 1995-97 in apparent defiance of equation (1), which would suggest an explosive path.

enterprise could 'make' more than 30 percent by not paying their gas bills and then settling in kind. A 30 percent price inflation translates into a 23 percent subsidy rate = $(1/1.3)-1$.

¹³ A derivation of the equation may be found in the technical appendix to Aizenman and Pinto (2005).

Table 2: Public Finances and Economic Growth, 1995--98

Year	Primary deficit (percent of GDP)	Interest payments		Government debt ^{b/}		Real GDP growth (percent a year)
		Percent of GDP	Percent of revenues ^{a/}	\$US billion	Percent of GDP	
1995	2.2	3.6	28	170	50	-4.0
1996	2.5	5.9	47	201	48	-3.4
1997	2.4	4.6	38	218	50	0.9
1998 ^{c/}	1.3	4.6	43	242	75	-4.9

^{a/} Cash plus noncash basis.

^{b/} Domestic plus foreign, end of period.

^{c/} Does not capture the subsequent debt renegotiation.

Source: Table 9.1, Pinto, Gurvich and Ulatov (2005).

The answer to this puzzle can be found in movement of the real exchange rate. The real interest rate, r , is a composite of that paid on ruble and dollar-denominated debt, with the weights determined by the relative shares of these currencies in total government debt. Here's what happened over 1995-97: even though real interest rates on ruble debt were high and growing, it accounted for a relatively small share of total debt; even in 1997, ruble debt was just 37 percent of total debt. With the real exchange rate appreciating rapidly over this period, Russia enjoyed substantial valuation gains on dollar-denominated debt. Thus, Kharas, Pinto and Ulatov (2001) estimate that in 1996 alone, the effect of real appreciation was to lower the ratio of government debt by 8 percentage points of GDP, which would offset a substantial fiscal deficit. But there is a problem if the real exchange rate is becoming overvalued, which we shall argue later was the case in Russia.

How did nonpayments feed into the government's debt dynamics? Directly, as it turns out. The biggest implicit subsidy providers to the manufacturing sector via nonpayments—oil, gas, electricity, railways—became delinquent on their own tax payments in order to compensate themselves. At the same time, manufacturing companies ran their own tax arrears. The combined effect led to chronic tax shortfalls and hence, higher primary fiscal deficits and greater

government borrowing than budgeted. Pinto, Drebertsov, and Morozov (2000b) attribute some 65 percent of the net new borrowing by the federal government during 1996 and 1997 to these tax arrears and the resulting cash revenue shortfalls.

A last point: could falling oil prices have worsened Russia's government debt dynamics and contributed to the crisis? The answer has two parts: first, oil prices did not influence government debt dynamics significantly before the 1998 crisis. The reason was that many of the taxes on oil were specific, rather than ad valorem; besides, oil companies had managed to consistently show low profits, regardless of price level. But after the crisis, oil export taxes were brought back in early 1999 and increased substantially in 2000 as oil prices took off, establishing a close link between the primary fiscal surplus at the federal government level and oil prices.¹⁴ Second, the impact of oil price changes on the fiscal accounts pales in comparison with nonpayments. Table 3 presents relevant data for 1996-98.

Table 3: Oil prices, implicit subsidies and Federal government borrowing

	1996	1997	1998
Oil Revenues/ GDP	4.1	3.4	2.6
Implicit subsidies (% GDP)	4.9	3.6	6.9
New net borrowing of the federal government (% GDP)	7.4	5.7	9.2 ^{a/}
Average Oil price (Urals, US\$/bbl)	20.1	18.3	11.8

Source: Oil prices and revenues from Min Fin, Rosstat, IMF; rest of the data from Pinto, Drebertsov and Morozov (2000b).

^{a/} Reflects the large depreciation of the ruble after August 17, 1998.

The table makes the point convincingly. Oil prices fell by 35 percent in 1998 relative to 1997 with a significant negative impact on the current account balance as we shall see below; but oil revenues declined by less than 1 percentage point of GDP while implicit subsidies rose by a whopping 3.3 percentage points of GDP.

¹⁴ IMF (2000a) attributes the big fiscal improvement in 2000 to discretionary tax policy changes, of which the re-introduced and expanded export taxes on oil were probably the most important component. But prior

3. Financial Globalization and Russia 1998

The crucial question on financial globalization is: Given Russia's fiscal and growth fundamentals, why were investors so anxious to lend to Russia and in such large quantities? In answering it, three periods may be distinguished: the surge in capital inflows which began in the early 1997; the beginning of speculative attacks on the ruble coinciding with the spillover of the East Asian crisis in November 1997; and the \$16 billion—8 percent of post-crisis GDP—increase in the government's dollar-denominated external debt after June 1 1998, even though it was evident by May that the Russian government was facing serious solvency problems. The reasons for capital flows shifted over time; but ironically the amounts lent grew as the fundamentals worsened.

Until the spillover of East Asian crisis in November 1997, confidence and market sentiment were strengthening in Russia for political and economic reasons—the latter narrowly interpreted as falling inflation; but cash tax shortfalls had become chronic and the micro-foundations for growth remained weak, a 'disconnect' which did not go unnoticed by investors, as we shall see below. The discussion starts with this disconnect and then goes on to present numbers on capital flows; the role of Russian banks in channeling funds to the government debt market; moral hazard as a factor explaining investors' willingness to increase their exposure to Russia even while signaling rapidly growing concern about devaluation and default; a desperate attempt by the government to retrieve its fiscal situation via the "GKO-Eurobond swap"; and the eventual meltdown even as an international rescue package arrived.

3.1 Improving Sentiment

After a cumulative decline in real GDP of 40 percent over 1990-95, there was considerable optimism in early 1996 that Russia would resume growing that year and attain steady growth

to 1998, while falling oil prices would worsen the current account, they did not have a significant impact on

rates of some 5 percent thereafter. Typical was this quote from Economist Intelligence Unit (1st quarter 1996): “As the EIU has long been predicting, 1996 is going to be the year in which Russia finally achieves real GDP growth....This opinion is shared by most other forecasters...”¹⁵

Even though real GDP ended up falling by 3.4 percent that year, the fact that inflation was being licked brought in a new element of hope: results reported in Fischer, Sahay and Vegh (1996 p. 59) based on the experience of the transition countries of central Europe indicated that “... stabilization appears close to being both a necessary and sufficient condition for growth”. In January 1997, then first deputy managing director of the IMF Stanley Fischer a meeting at Harvard University and was cited as follows:¹⁶ “Russia, he said, has achieved macroeconomic stabilization....The IMF is virtually certain, he declared, that real growth is underestimated and will soon show up in official figures...” Not long after this endorsement, President Yeltsin, whose re-election in July 1996 had led to firming political certainty, appointed an economic “dream team” spearheaded by two reformers.¹⁷ One could therefore argue that market sentiment had a solid basis for turning positive. This coincided with a progressive relaxation in restrictions on foreign portfolio investment starting in 1997. Thus, perceptions of improving economic prospects and external financial liberalization might explain the big boom in foreign financial participation in 1997.

Another reason might simply be that Wall Street and other financial investors were lulled into complacency by rules-of-thumb, which suggested all was well with Russia’s fundamentals. The government’s debt was steady around 50 percent of GDP, much less than the Maastricht rule of 60 percent, as shown in Table 2; the current account balance hovered around zero and did not

debt dynamics.

¹⁵ *EIU Country Report: Russia*, 1st quarter 1996. Page 8 forecast real GDP growth of 3 percent for 1996 and 4 percent for 1997. Actual outcomes were -3.4 percent for 1996 and +0.9 percent for 1997.

¹⁶ *U.S.-Russian Investment Symposium*, January 9-12, 1997. Final Report, p. 3. Harvard University, Cambridge, Mass. USA.

¹⁷ Privatization czar Anatoly Chubais was appointed First Deputy Prime Minister and Minister of Finance, while the reformist governor of Nizhny Novgorod, Boris Nemtsov, was appointed First Deputy Prime Minister and Minister for Fuel and Energy.

indicate need for panic; and money management companies were valuing Russian companies in the natural resource and other sectors based on their physical assets relative to similar companies elsewhere in the world, e.g., barrels of oil or kilometers of railways or cubic meters of gas, which suggested considerable undervaluation—even though the underlying assets had not yet shown up in earnings per share, cash profits or dividends. The money managers described Russia as an “asset play”.

But judging from the buzz at the Dow Jones/Sachs Second Annual Russia Investment Conference held in New York in March 1997, disquiet was beginning to set in. Several speakers extolled the conquest of inflation but remarked on the “widening gap” between macroeconomic and microeconomic performance. This macro-micro “disconnect” was described most forcefully by the then CEO of Renaissance Capital, who described the booming stock market as “macro driven” as a result of falling inflation and interest rates and the inclusion of Russia in the IFC investable index—even as production was still falling with enterprise debt and arrears rising.¹⁸

A few months later, an informal economic report prepared by two economists, one from the IMF and the other from the International Finance Corporation (the World Bank Group’s private sector arm), noted in relation to the disconnect:

“Russia has achieved considerable success in stabilization and privatization. However, there are no signs yet of a sustainable jump to high growth rates. Based on the Central European experience, this paper concludes that this process is not going to be automatic. Rather, a significant agenda of unfinished reforms remains.

At the top of the list is the enforcement of hard budget constraints at the enterprise level. Although macroeconomic discipline exists, the individual enterprise’s budget is softened by weak

¹⁸ First author’s notes dated March 13, 1997 from Dow Jones/Sachs Second Annual Russia Investment Conference held March 5-6 1997.

enforcement of taxes, the use of non-monetary payments and growing arrears, laxity in bankruptcy enforcement and a parochial attitude toward public procurement.....”¹⁹

3.2 Capital Inflows

Notwithstanding the macro-micro “disconnect”, the money kept flowing in, attracted by Russia’s “asset play”. This sub-section provides only a quick sketch of the capital flow numbers in Table 4 and the main events surrounding them; the underlying economics and a more detailed chronology follow in sub-sections 3.3 to 3.6 below. Box 1 provides an overview of balance-of-payments accounting as a guide to Table 4.

The impact of improving market sentiment combined with liberalized access to the GKO market is evident: portfolio flows into the GKO market just in the first quarter of 1997 were more than thrice the amount for the whole of 1996 as shown in Table 4. Reserves rose rapidly and the stock market boomed as captured by the RTS index reported in the table. And ‘Other capital flows, net’, which includes capital flight as well as purchases of dollars by households, dropped during the first two quarters of 1997.

There was an equally dramatic reversal in the fourth quarter of 1997 as the Asian crisis spilled over. Inflows into the GKO market, which had already fallen sharply in the third quarter, fell precipitously in the fourth while capital flight resumed and reserves and the stock market both plunged.

¹⁹ Buckberg and Pinto (1997). In retrospect, the statement about macroeconomic discipline was optimistic.

Table 4: Capital Inflows, Foreign Exchange Reserves and the Stock market

	1996	1997				1998			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current account, \$ mln	10847	2823	-714	-1503	-687	-2957	-3637	775	6038
Net portfolio inflows, \$ mln ^{a/}	4411	6089	8020	2042	1338	4238	3900	928	-448
<i>of which:</i>									
GKO/OFZ	1613	4013	4789	1859	220	3098	-331	-2267	-862
Eurobonds	1004	1229	1987	98	369	689	4097	2318	-140
Equity	2035	424	307	372	194	25	33	-20	666
Other portfolio inflows, net	-241	422	936	-287	555	425	101	898	-112
Other capital flows, net, \$ mln ^{b/}	-19292	-7117	494	-2829	-7891	-2375	-882	-4569	-7426
Reserves, \$ bn ^{c/}	15.3	16.5	24.5	23.1	17.8	16.9	16.2	12.7	12.2
RTS index ^{d/}	201	301	419	498	396	326	151	44	59

Source: CBR, authors' calculation

^{a/} Includes both private and public sector.

^{b/} Includes errors & omissions, “-“ equals outflow.

^{c/} CBR gross reserves, including gold.

^{d/} Official index of the Russian stock exchange, end of period, dollar-based.

The third and final round of speculative attacks on the ruble began in May 1998. In the second quarter of 1998, three things happened: by mid-May, the realization had set in that fiscal fundamentals were weak and international liquidity low. Falling oil prices were reflected in a growing current account deficit, so policymakers were battling a triple whammy of unsustainable debt dynamics, low reserves and a fast-deteriorating current account. But as Table 4 shows, the second quarter current account deficit was offset by net portfolio inflows largely because the government had started issuing Eurobonds as part of a move to lengthen maturities and lower borrowing costs.

The ruble peg was finally abandoned in August 1998. Table 4 shows the large decline in reserves in the third quarter of 1998, explained by the exit from GKO's and the big increase in the size of “Other capital flows, net” as domestic residents shifted out of ruble assets into dollars. Net portfolio flows remained positive overall because of the large volume of official borrowings as an international rescue package kicked in after July 20, 1998. The impact of the meltdown also shows up in the plunge in the RTS index to less than a third of its value at the end of the previous quarter as the ruble collapsed. But the current account sharply reversed following the

large real depreciation of the ruble which accompanied the meltdown (shown in Figure 2 above) and then turned into a massive surplus in the fourth quarter. We now turn to a more detailed examination of the events underlying the numbers in Table 4 in the sub-sections 3.3 to 3.6.

Box 1: Intricacies of Balance-of-Payments Accounting as a Guide to Table 4^{a/}

The point of ultimate interest in Table 4 is what happens to the foreign exchange reserves of the central bank, CBR, as this is where a speculative attack on the ruble will show up.

Let's start with:

Increase in reserves = Current account surplus + Net portfolio inflows + Other capital flows net.

This is the accounting identity underlying Table 4. Our interest is in the mechanics of the speculative attack (outlined in sub-sections 3.3 to 3.6) and how this would show up in the numbers in Table 4. In the story below, two points are of interest:

(i) what the impact of actions taken by Russian commercial banks would be. Suppose a commercial bank sold its holdings of GKO's and bought dollars with the ruble proceeds. This would show up in "Other capital flows net". So would a use of the ruble proceeds by the bank to buy dollars and use these dollars to meet margin calls on collateralized loans from overseas. This is treated as a reduction in the external liabilities of the bank and is included by CBR in a sub-account of "Other capital flows net".

(ii) how a portfolio shift out of ruble assets and into dollars by domestic, non-bank residents would be reflected. This captures an important point forcefully made in the context of the 1997-98 East Asian crisis by Chang and Velasco (2000), that when the exchange rate is fixed, the claims on foreign exchange reserves includes not just short-term external debt but the whole of broad money. Pinto, Kharas and Ulatov (2001, pp 30-32) reflect this point in the calculation of international liquidity indices for Russia prior to its August 1998 crisis. The point is that the shift out of broad money into cash dollars by domestic residents ignited by panic could be a potent force in the speculative attack. This shift, or the purchases of dollars by domestic residents, is also captured in "Other capital flows net".

A final point: net borrowing by the Russian government from official sources (bilateral or from the international financial institutions) is also included in "Other capital flows net" in Table 4. On the other hand, borrowing via GKO's and Eurobonds from private external (non-resident) sources is included in "Net portfolio inflows", as one would expect.

^{a/}We are not, to be honest, specialists in balance-of-payments accounting. These points were therefore verified in conversations the second author had with CBR officials in Moscow.

3.3 Russia's Banks

When external liberalization and an capital account lead to a crisis, the domestic private banks usually play a crucial role in three respects: first, they intermediate capital inflows from abroad and on-lend these to domestic residents, sometimes contributing to an asset bubble and eventually to a build-up of non-performing loans, especially when bank supervision is weak;

second, currency mismatches often result in an environment where domestic interest rates are much higher than the foreign interest rates and the exchange rate is fixed; and third, when the banks are eventually bailed out, their private external debts are often taken over by the government, adding to public indebtedness. This was the story of the Southern Cone Latin American countries, vividly described by Carlos Diaz-Alejandro in his 1985 classic (Diaz-Alejandro 1985), which to a large extent foreshadowed what happened in East Asia in 1997-98.

But the Russian story was somewhat different. While currency mismatches developed on the balance sheets of the banks themselves (as a result of borrowing externally in hard currency and investing in ruble government debt), the other two channels were absent as banks' links with the Russian real sector were limited and the government let the banks collapse instead of bailing them out. Besides, Russian commercial banks were much smaller than those in East Asia or Argentina. Total household deposits just before the crisis were approximately 7 percent of GDP, compared to over 30 percent for East Asia; and credit to the private sector was a paltry 4 percent of GDP, compared to 30 percent for Central and Eastern Europe.²⁰ Moreover, over 75 percent of household deposits were held in the state-owned savings bank, Sberbank, under an implicit deposit guarantee. Under this configuration, a bank bailout would have been unlikely to contribute to a fiscal crisis;²¹ the actual amount spent to prop up banks, including emergency loans to large banks before the meltdown, has been estimated at no more than 2 percent of 1998 GDP. This compares with public bailouts of over 10 percent in Hungary in the early 1990s, and a multiple of that figure in the Asian crisis countries.

Excluding Sberbank, the banking system was dominated by a few large private Moscow-based banks, well-connected politically and part of "Financial Industrial Groups" built around

²⁰ Figures for household deposits from Sinegubko (1998). Central and Eastern Europe includes Bulgaria, the Czech Republic, Hungary, Poland, Romania, and Slovenia. See IMF (2003, table 6.2).

²¹ The moral hazard argument of Dooley (1998); Burnside, Eichenbaum, and Rebelo (2001); and Kharas and Mishra (2001) explores the role of prospective fiscal deficits caused by implicit bailout guarantees to banks in the context of the Asian crisis.

natural resource exporters that engaged in connected lending and were heavily invested in government securities. While there was a tendency to regard Russian banks as being in the vanguard of the movement toward markets, Tompson (1997) describes how little their role differed from their Soviet era counterparts. Most of these banks had made their money in shady ways, as “authorized banks” for treasury operations, which amounted to their receiving interest-free loans at a time of high inflation and devaluation---and subsequently, high real interest rates on ruble government debt when the stabilization program began in mid-1995. They extended their reach through the notorious “shares-for-loans” privatization auctions in 1995-96, lending the Russian government money collateralized with the shares of valuable companies in the oil, metals, and telecom sectors, with the proviso that if the loans were not repaid, the banks would acquire the shares. The loan size was determined through auctions that were suspected to be rigged (Lieberman and Veimetra 1996).²²

From the perspective of financial globalization, the banks had little to do with the real sector and their main role was to act as a funnel to the government debt market: in effect, they were sovereign risk. Their exposures could be categorized as follows:

- Panics and runs on deposits (applicable to banks everywhere)
- Exchange or devaluation risk, owing to (i) borrowing in hard currency via syndicated loans and investing in ruble government debt; and (ii) from unhedged positions resulting from buying rubles forward for dollars from non-resident investors in GKO (“currency forwards”)
- Rollover risk from maturing syndicated loans
- Default risk on their holdings of government dollar-denominated debt and related margin calls. Russian banks had effectively bought MinFin bonds on margin via repo arrangements

²² On how the large Moscow banks made their money, see Black, Kraakman, and Tarassova (2000). An excellent, detailed analysis of the weakness of the banking system appears in Sinogubko (1998), which also contains an early quantification of balance sheet and off-balance sheet losses. The results of a post-crash audit of 18 large banks based on international accounting standards are reported in van Schaik (1999).

collateralized with these bonds; any rise in bond spread fueled by default concerns would lower the price of this collateral and trigger margin calls.²³

While pre-crisis assessments of the banks' portfolios were difficult because of unreliable data, their vulnerability to the deteriorating fiscal situation became apparent towards the end of 1997. Notwithstanding the welcome downward trend in inflation and interest rates, the chronic shortfall in cash tax collections prompted the IMF mission to leave at the end of October 1997 without completing its review and suspending disbursement of its loans. This action coincided with the exit of Korean and Brazilian investors from the GKO market as the East Asian crisis spilled over. Treating this event as a confidence shock, CBR attempted to calm the markets by announcing that from January 1998, it would target a central rate for the ruble of 6.2 per dollar with a +/- 15 percent fluctuation band, compared to the then rate of ruble 5.9 per dollar. It was eventually forced to raise interest rates in a defense of the ruble after using up \$6 billion out of its reserves of \$23 billion that November.

Bank portfolios took a hit owing to the rise in ruble interest rates as well as bond spreads on dollar-denominated government debt (discussed below in the context of Figure 3), exposing the banks to margin calls and rollover risks on syndicated loans. Either or both would have forced the banks to sell liquid assets—their holdings of GKO—possibly setting off a downward spiral, while the need to raise dollars to meet margin calls and repay syndicated loans in part or full would have depleted the central bank, CBR's, reserves. We shall return to the banks and their interaction with the fiscal situation in triggering the August 1998 crisis. Before that, a discussion of moral hazard is called for.

²³ Dollar-denominated MinFin bonds, totaling \$11 billion, were issued after the collapse of the Soviet Union to compensate holders of foreign currency accounts with the state-owned Vneshekonombank, a Soviet-era bank charged with managing external debt of the government. Five tranches were issued in 1993 (Soviet-era debt) and an additional two tranches were issued in 1996 (debt of the Russian Federation).

3.4 Moral Hazard

Following the October 1997 spillover from the East Asian crisis, which CBR got under control by expending reserves and raising interest rates as noted above, Russia experienced a second bout of macroeconomic instability towards the end of January 1998 with investors becoming concerned about the growing severity of the East Asian crisis and “policy drift” at home in relation to structural reform. The government’s response at the time and over the next few months indicated it was dealing with a confidence shock. In mid-May 1998, the situation worsened, as the political and financial crisis intensified in Indonesia with President Suharto’s exit. By then, it was evident that Russia was facing a “fundamentals” problem rather than a confidence shock. The real appreciation of the ruble had run its course and under the macroeconomic program assumptions for 1998, the marginal real interest rate was over 25 percent with real growth forecasts having been reduce to 0-1 percent and one-year GKO auction rates at 40 percent.²⁴ Public debt was clearly on an unsustainable trajectory and the market was signaling high levels of devaluation and default risk.

These adverse signals could be extracted from the one-year GKO interest rate based on the following equation, which is an expanded form of interest parity.²⁵

$$(x) \quad i^d = i_r^f + SRP + (dx/x)^* + DRP ,$$

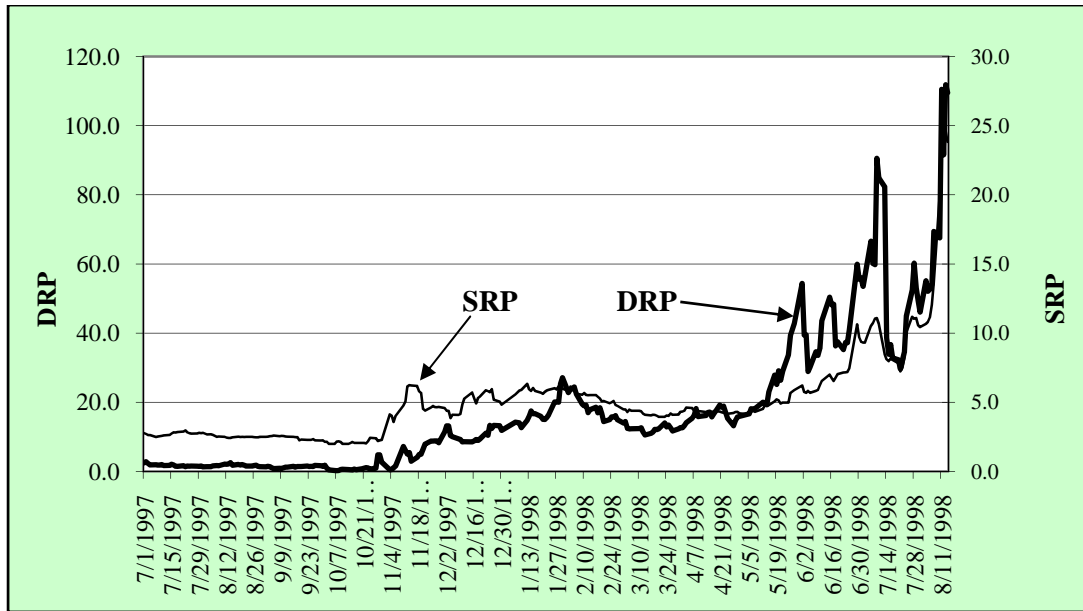
In the equation, i^d is the domestic interest rate and i_r^f is a base risk-free rate, such as the yield on one-year U.S. treasury bills; SRP is the sovereign risk premium and captures default risk; $(dx/x)^*$ is the target rate of devaluation of the currency against the U.S. dollar; and DRP is the devaluation risk premium, or the compensation for the risk that actual devaluation exceeds the target rate, $(dx/x)^*$. SRP was proxied by the spread of the market yield of the Russian 2001/9.25

²⁴ See Kharas, Pinto and Ulatov (2001, p. 16).

²⁵ This is a variant of a decomposition originally made by Frankel and MacArthur (1988). The details of the calculations for Russia are contained in Kharas, Pinto and Ulatov (2001, pp 26-29).

percent coupon dollar Eurobond over the comparable 2001/6.25 coupon percent U.S. Treasury note. The target devaluation rate $(dx/x)^*$ was obtained from the macroeconomic program assumptions and was 9 percent for 1997 and 6 percent for 1998. Lastly, *DRP* was obtained as a residual.

Figure 3: Dynamics of Sovereign Risk and Devaluation Risk Premia



Source: Figure 3, Kharas, Pinto and Ulatov (2001).

Figure 3 shows the jump in both the DRP and SRP in November 1997 when the spillover from East Asia occurred. The blip towards the end of January 1998 is also noticeable. Finally, the sustained deterioration in market signals after mid-May 1998 is evident. Yet Russia increased its dollar-denominated external debt by \$16.4 billion in the 10 weeks between June 1 and the meltdown of August 17, equal to 8 percent of post-crisis GDP; 60 percent of this came from the private sector. Why were private investors willing to increase their exposure to Russia while at the same time signaling exceptionally high levels of devaluation and default risk? Because of moral hazard in the expectation of a large bailout by the international financial institutions and possibly the G-7. Here is a telling quote from Reuters News Service from June 10, 1998:

“Leading Russian shares nose-dived in early trade on Wednesday as nerves wore thin ahead of crucial government debt auctions later in the day and hopes faded for an announcement of concrete foreign support for markets. “We are in a potential meltdown situation at present...there is simply no confidence whatsoever,” said Regent European Securities’ chief strategist Eric Kraus. “The market is profoundly disappointed by the failure of (German Chancellor Helmut) Kohl, the G7 or the IMF to provide any kind of support.”

A few days later, Russia issued a 30-year Eurobond with a put-at-par after 10 years at a spread of 753 basis points, more than twice the spread on a Eurobond issued just one year earlier. It was so well-received that the size was increased from a planned \$1.5 billion to \$2.5 billion. This is what an investment analyst noted: “Readers should recognize that this issue was sold--as all Russian debt has been in the past several months--essentially because investors believe that Russia will not be allowed to fail, rather than because its fundamentals are encouraging”.²⁶

In the meanwhile, the government released its own diagnosis of the situation, recognizing the fundamental nature of the fiscal problem in the remedies it proposed, which focused on raising primary surpluses and at last resolving the nonpayments problem.²⁷ But its immediate focus was on financial engineering in order to buy time: shifting away from what was seen as short-term expensive GKO into long-term dollar-denominated debt in order to lower interest payments. GKO auctions were skipped with Eurobond proceeds used to pay off maturing GKOs. CBR’s reserves were being steadily depleted and by the end of June 1998, a roughly 12 percent shift out of domestic assets broadly defined (broad money including foreign exchange deposits in Russian banks plus the market value of GKOs) would have exhausted CBR’s gross foreign exchange reserves.²⁸

²⁶ Laurence Mutkin, “Actually, Russia *Can* Fail,” Market Commentary, Tokai Bank Europe, June 19, 1998.

²⁷ The core measures were outlined in two documents, “Stabilization of the Economy and Finance Program”, and “Stabilization Measures Plan” issued June 19, 1998.

²⁸ For a detailed analysis of international liquidity, see Kharas, Pinto and Ulatov (2001, pp 30-32).

Negotiations finally began on an IMF/World Bank/Government of Japan emergency package to support the ruble and restore confidence on June 23, in a crisis atmosphere marked by government debt now on an explosive path and dwindling foreign exchange reserves. A \$22.6 billion package was announced on July 13, on the same day that GOR released the details of a plan designed to swap GKO into long-term Eurobonds. The IMF Board approved the package on July 20th and the GKO-Eurobond swap was completed four days later. Ironically, this rescue package plus the swap triggered (i.e., determined the timing of) Russia's meltdown.

3.5 GKO-Eurobond Swap

The GKO-Eurobond swap announced on July 13 had a compelling intuitive appeal: since the exchange rate is fixed, why not borrow long-term Eurobonds at around 12 percent instead of short-term GKOs costing well over 50 percent? In one stroke, interest payments would be brought down sharply and rollover risk substantially eliminated, giving the government breathing room to implement fiscal reform and start dismantling the nonpayments system. Few finance ministers would pass up such an opportunity! The main features of the swap were as follows:²⁹ (a) it was to be voluntary and market-based; (b) all GKOs maturing before July 1, 1999, were eligible, with a face value of \$39.3 billion, and a market value of \$32.3 billion at prevailing exchange rates. Excluding the 60 percent share believed held by CBR and the state-owned savings bank, Sberbank, which were excluded from participating, the market value of eligible GKOs dropped to about \$13 billion, held by non-residents and Russian commercial banks. (c) Those wanting to convert would receive an equal amount by market value of 7-year and 20-year dollar Eurobonds and could bid by quoting a spread in basis points over the respective US Treasury benchmark bonds.

The bid results were announced on July 20, 1998. Even though the maximum spread of 940 basis points chosen by MOF was much higher than the prevailing spread on the benchmark

Russian Eurobond, only \$4.4 billion of GKO by market value was tendered for exchange. This suggested that the holders of GKOs preferred to hold on to their short-dated paper and take the risk of a devaluation—mitigated by a large rescue package--than swap into long-term Eurobonds at highly attractive spreads, indicating anxiety about default risk. But things unraveled quickly after the swap was completed on July 24, culminating in the meltdown of August 17, 1998. We show in the next sub-section how the crisis was *triggered* by the combination of the rescue package and GKO-Eurobond swap interacting with the banks' vulnerabilities and low foreign exchange reserves; the *fundamental* cause remained the incompatibility between the government's unsustainable fiscal position and the fixed exchange rate.

3.6 The Meltdown

To recapitulate, by mid-May 1998 Russia's economic report card looked weak: government debt on an unsustainable trajectory; low international liquidity (low foreign exchange reserves relative to the claims on them); weak growth prospects; one-year GKO yields at 40 percent with an inflation target of 8 percent; and the nonpayments system deeply entrenched. Subsequently, market signals on devaluation and default as measured by the devaluation risk premium (DRP) and sovereign risk premium (SRP) implicit in the pricing of one-year GKOs began turning sharply adverse, as shown earlier in Figure 3. To make matters worse, the falling oil price led to a growing current account deficit, as saw in Table 4; but the deterioration was small as a share of pre-crisis GDP, no more than 2 percent.

Table 5 shows the one-year GKO yield, the SRP and DRP for key dates starting with May 15, 1998 and ending with the August 17, 1998 meltdown.

²⁹ For a detailed account of the parameters and mechanics, see Kharas, Pinto and Ulatov (2001, p 35).

Table 5: GKO yield, SRP and DRP for key dates (% per year)

Date/Key event	GKO yield	SRP	DRP
May 15: Fiscal sustainability clearly in question	39.3	4.8	23.0
July 13: IMF-led \$22.6 bn crisis package and GKO-Eurobond swap announced	102.3	8.5	82.3
July 14	58.2	8.1	38.6
July 20: IMF Board approves package. disbursement size reduced from \$5.6 billion to \$4.8 billion as parliament stalls on key expenditure control and tax measures	51.6	7.8	32.3
July 23: Day preceding completion of GKO-Eurobond swap	54.2	8.2	34.4
July 24: GKO-Eurobond swap completed. GKO Yields return to [crisis levels of mid-June], SRP jumps 180 basis points	66.4	10.0	44.9
August 6: World Bank Board approves crisis package-related structural adjustment loan and disburses \$300 million	77.7	12.0	54.1
August 10: A Monday, exactly one week before meltdown	99.0	20.0	67.5
August 14: Friday preceding meltdown. \$1.7 billion in reserves lost as portfolio investors exit, bringing total loss July 10 – August 14 to \$4.5 billion. CBR bails out SBS-Agro with \$100 million loan	144.9	23.8	109.5
August 17: Meltdown Monday. Devaluation, default and private financial payments moratorium announced.			

Source: Data from Brunswick-Warburg Moscow. Calculations and commentary by authors.

Three things are worth noting from the table: first, GKO yields and the devaluation risk premium, DRP, fell substantially on July 14, the day after the IMF-led rescue package was announced; but the sovereign risk premium, SRP, fell only marginally. This pattern held on July 20, the day the IMF approved the package and released \$4.8 billion: by then, the GKO yield was about half the level of July 13—but still above 50 percent. And the DRP was much less than half the level of July 13. But the SRP fell only a little. This is consistent with the idea that the IMF-led rescue package would alleviate short-run liquidity by boosting reserves and therefore temporarily lower devaluation risk; but not have time to seriously allay default concerns.³⁰

³⁰ Sturzenegger and Zettelmeyer ((2006, p. 98) argue that because GKO yields came down sharply, the combination of the IFI liquidity injection and swap must therefore have been good for GKO holders. They describe the view in Kharas, Pinto and Ulatov (2001) that this combination actually triggered the crisis as “too extreme”. Three things to note: (i) GKO yields came down to around 60 percent on July 14, meaning that ex ante real interest rates were still above 50 percent and not about to help the Russian economy turn around; (ii) of course GKO yields would come down as the DRP was being reduced in view of the liquidity injection; and (iii) Sturzenegger and Zettelmeyer fail to note that the SRP barely budged after the announcement of the package, which therefore failed to lower assessments of default risk (SRP).

Second, the GKO-Eurobond swap clearly did not have the intended effect. GKO yields rose substantially the day the swap was completed and there was a significant jump in the SRP, by 180 basis points. This is exactly the opposite of what one would expect from a swap intended to lower rollover risk (thereby improving liquidity) as well as interest payments (thereby improving debt dynamics and reducing default concerns). Third, there was no looking back after July 24, as the situation spiraled downward. This is what happened.

When money management funds tried to “flip” the Eurobonds acquired during the swap to outside investors (hedge funds and big pension funds) as a form of exit, they discovered there was no appetite for the paper so that its price fell and spreads actually rose!³¹ Key banks such as SBS-Agro-- one of two commercial banks with the largest household deposits after the state-owned Sberbank-- had entered into repurchase arrangements with foreign banks, collateralized with their holdings of dollar-denominated MinFin bonds. With the GKO-Eurobond swap adding significantly to the stock of outstanding Russian sovereign dollar-denominated debt, its price fell, triggering calls for more collateral. The swap was soon followed by a large liquidation of dollar-denominated government paper by SBS-Agro as it sought to meet margin calls. The additional paper depressed the prices of Russian sovereign debt further, leading to accelerated margin calls on repos entered into by Russian banks.

The growing margin calls on repos coincided with a large volume of syndicated loans falling due in August, a peak month for loan rollovers, which many banks had to repay in part or full.³² Margin calls and loan repayments meant a forced sale of GKO's to raise liquidity. Panic set in as depositors sought first to convert their ruble bank deposits into dollar deposits, and then

³¹ Typically, one money manager told the first author, bond spreads tighten in the secondary market so that primary buyers can turn a profit. (Recall that the spread of 940 basis points at which the swap was done by the government was considerably higher than prevailing market spreads)

³² Total bank debt maturing in 1998 was estimated at \$2.13 billion, \$0.6 billion in the first half and \$1.52 billion in the second, with a peak in August at \$467 million (Reuters, end-July 1998).

to withdraw them altogether, reinforcing the liquidity shortage. On August 14th, it was reported in the press that CBR had intervened to bail out SBS-Agro.

CBR lost \$4.5 billion in reserves over July 10 – August 14 as portfolio investors exited the equity and GKO markets, barely offset by the IMF (\$4.8 billion, July 21) and World Bank (\$300 million, August 7) tranches received under the rescue package. This forced the devaluation-default-moratorium actions of August 17, 1998. A further \$3 billion was lost before CBR finally floated the ruble on September 2; by September 9, the exchange rate had reached 21 rubles to the dollar compared to 6.29 on August 14, the last business day before the events of August 17, 1998. Cumulatively, Russian-era external debt had increased by close to \$16 billion between June 1 and July 24, 1998, compared to a level of \$36 billion at the start of the year.³³

In the next section on lessons, we delve further into the conceptual and analytical underpinnings of why the rescue package and GKO-Eurobond swap backfired.

4. Lessons and Insights from Russia 1998

Whether financial globalization is in general good for growth or not has become a hotly contested subject among economists.³⁴ The first lesson from Russia 1998 is that at the least, caution is advisable when countries are going through major transitions.³⁵ Two transitions were involved in Russia: from high to single-digit inflation; and a planned to a market economy. The fundamental problem was the inconsistency between trying to squeeze inflation out while maintaining unaffordable subsidies to enterprises in the guise of the nonpayments system. The soft budgets and related subsidies destroyed any incentive to restructure enterprises, fueled asset stripping by managers and fed into higher fiscal deficits. The banks—especially the

³³ Russian-era foreign currency debt refers to all post 1/1/1992 external debt. See Kharas, Pinto and Ulatov (2001).

³⁴ See for example, Aizenman (2008).

³⁵ Diaz-Alejandro's 1985 classic on the Southern Cone experience and Chile is a case in point. Chile fixed its exchange rate to lower inflation and opened up its capital account in the presence of weak-to-

big ones in Moscow—did little to help and got used to making easy money in the government debt market. Given the prevailing environment, financial globalization merely helped finance the soft budgets by increasing the demand for government debt and in this sense prolonged the unsustainable policy mix, which eventually put government debt on an unsustainable path and led to the meltdown of August 17, 1998.

But Russia was relatively lucky: it was able to recoup much of the \$16 billion increase in its external debt incurred in the 10 weeks preceding the meltdown when it restructured its London Club debt in 2000. The debt owed to the London Club was not a sovereign liability but that of Vneshekonombank, the Russian government's external debt manager. Had Vneshekonombank been allowed to go bankrupt, its creditors would have faced a legal nightmare; Russia offered sovereign bonds in exchange. It also obtained political support for the deal on the grounds that much of this debt was incurred during Soviet times. Overall, Russia secured a 50 percent write down in present value terms on its London Club debt, which amounted to....\$16 billion!³⁶

The second lesson/insight from Russia on financial integration is a corollary to the first: that countries facing sovereign debt problems may actually benefit from a cut-off in market access if such access is softening the government's resolve to harden budgets for itself or the economy in general. The Russian crisis questions the conventional view that market access is always good. For example, Eichengreen and Ruehl [2000] discuss the cases of Ecuador, Pakistan, Romania and Ukraine following the East Asian and Russian crises. In their framework, avoiding a “.....costly, extended interruption to market access” is a prime objective of any debt restructuring. Hence, they argue, the IFIs (the IMF and the World Bank) are not credible when they seek to bail in the private sector as part of a new money package. Russia 1998 offers a counterexample. Less than a fourth of the IMF-World Bank funds involved in the

nonexistent banking supervision, leading eventually to a problem with private external debt and currency mismatches.

³⁶ For details, see Kharas, Pinto and Ulatov (2001, p. 4) and Pinto, Gurvich and Ulatov (2005, p. 431-2).

international rescue package was eventually disbursed; Russia pulled the plug on the package by devaluing and defaulting; private investors were bailed in via the default and forced debt restructuring; and the disruption in market access had significant economic benefits.³⁷

Following the default, Russia was shut out of the capital markets, forcing fundamental fiscal reform and leading to a progressive hardening of budgets throughout the economy as the nonpayments system was at last dismantled. Together with the crisis-triggered depreciation of the real exchange rate, this facilitated a remarkable and surprisingly quick recovery: whereas initial projections were for a 7-10 percent fall in GDP in 1999, the eventual outcome was growth of over 5 percent. In fact, the recovery in industry was evident as early as October 1998, two months after the meltdown (Pinto, Gurvich, Ulatov 2005, p. 426-9).

Russia's experience does not mean one should encourage countries to default in order to solve an unsustainable debt situation; among other things, this calculus would depend upon the government's bargaining power vis-à-vis its creditors and some assurance of a change in post-crisis behavior by the government and private sector which eliminates the fundamental problem which led to the crisis in the first place. But it does suggest that unfettered access to international capital markets is not always a good thing.

Third, the behavior of the private investors may shed some light on the “allocation puzzle” of Gourinchas and Jeanne (2007). They argue that not only does capital tend to flow from developing to developed countries in line with the Lucas Paradox, but within developing countries, poorer performers in terms of growth and productivity receive the bulk of the capital flows. This, the authors argue, does not square with the predictions of the neoclassical growth model, hence the “allocation puzzle”. Gourinchas and Jeanne offer an explanation within the confines of the neoclassical model, based eventually on the idea that savings and productivity growth are positively related and have a stronger positive relationship than investment and

³⁷ See Pinto, Gurvich and Ulatov (2005, pp. 431-2) for details on the restructuring of GKO/OFZs and London Club debt. They also discuss Russia's surprising post-crisis recovery.

productivity growth. In this case, some of the ‘extra’ savings will spill over into current account surpluses.

The allocation puzzle is really a puzzle only if one believes capital allocation decisions are made in the context of perfect capital markets by investors whose objective is to maximize long-run growth in developing countries. In this case, capital would flow to countries with high productivity growth and any deviation from this pattern would constitute a genuine puzzle. For developing countries without access to private capital flows, there is a simple explanation for the allocation puzzle: their predominant source of capital flows is official and the objectives of official creditors are quite different from those making private capital allocation decisions.

But what about emerging markets like Russia, where the predominant source of external funding is private? Even here, there is a simple explanation: if the investors care only about short-term returns gains (are myopic) and are motivated by moral hazard, one is likely to see capital flows in line with what might appear to be an allocation puzzle.³⁸ This is the only reasoning one can offer to explain why Russia was able to increase its external debt so significantly after May 15, 1998 when it was crystal clear that the fiscal situation was unsustainable (reflected in the way the market itself was pricing the government’s debt instruments!) and why a speculative attack on foreign exchange reserves by GKO holders forcing a devaluation did not take place before August 17, 1998. Investors clearly wanted to have their cake (charge interest rates reflecting high default and devaluation risks) and eat it (exit with 100 percent of ruble proceeds at the *pre-crisis* exchange rate when a large official bailout package in the shape of a liquidity injection to foreign exchange reserves arrived).

The fourth lesson is about the dismal performance of rules-of-thumb in assessing the strength of a country’s fundamentals. There was a tendency to be complacent about the Russian government’s debt dynamics because the ratio of debt-to-GDP was well within the Maastricht criterion of 60 percent over 1995-97. As a result, the fact that instability in the debt

dynamics was being camouflaged by the real appreciation of the ruble over this period was missed.

Similarly, the sustained real appreciation of the ruble itself was seen as nothing to worry about because at no point was Russia's current account balance at levels conventionally regarded as vulnerable--as would be the case if the current account deficit exceeded 5 percent of GDP, for example. A current account surplus in 1996 was followed by a deficit in 1997 of less than 1 percent of GDP. The projection for 1998 made at the end of 1997 was roughly of balance, this being revised to a small deficit of 2 percent of GDP by July 1998, a month before the meltdown. But such 'reasoning' in connection with the real exchange rate missed two points: one at the micro level, the other at the macro level. At the micro level, the sustained real appreciation of the ruble between mid-1995 and mid-1997 was not accompanied by productivity improvements; to the contrary, this is precisely when nonpayments and asset-stripping intensified. At the macro level, the biggest threat to the real exchange rate came not from the current account deficit but from the fiscal accounts: that the deficit and public debt might ultimately have to be monetized, which is what the market was signaling clearly by May 1998. By then, the Sargent-Wallace conditions were met, with real interest rates exceeding the growth rate; the government financing its deficit by issuing debt and rolling it over to keep current inflation low; and the debt-to-GDP ratio having hit a market-imposed ceiling, as indicated by high and rising default risk. In such "micro-macro" circumstances, a real exchange rate depreciation may become inevitable, to give manufacturing enterprises relief and to reduce the burden of domestic currency debt via a large nominal depreciation.³⁹ Sensing this, GKO holders would head for the exit, precipitating a crisis. This is what in fact happened, with the timing determined by the liquidity injection from the IFIs and the GKO-Eurobond swap, which brings us to the last lesson.

³⁸ The fallout from the financial sector of the US, which led to the global crisis, should be proof enough that the horizons and compensation structures of fund managers are consistent with the allocation puzzle.

³⁹ But note that a real depreciation raises the burden of dollar debt, which Russia offset by renegotiating its London Club debt with a substantial discount.

The fifth lesson is that instead of averting a crisis when fiscal fundamentals are weak, financial engineering could actually trigger a crisis. This is the lesson from the GKO-Eurobond swap. There are two parts to this lesson: first, that the logic is flawed even though swapping out of short-term, costly GKO into long-term, “cheaper” Eurobonds might seem like a no-brainer; and second, that the macroeconomic consequences of such swaps in the presence of fiscal solvency problems can only be adverse.

The logic was flawed for two reasons: (i) the nominal interest differential between GKOs and Eurobonds was not an unexploited arbitrage opportunity but compensation for the devaluation risk and difference in perceptions of default risk on the two debt instruments; dollar-denominated Eurobonds are by definition not subject to devaluation risk and might have been perceived as implicitly senior to ruble-denominated GKOs; and (ii) by its nature, a market-based, voluntary swap cannot be expected to lower the present value of the government’s debt obligations. This is a sort of Modigliani-Miller theorem for countries and asserts that such swaps are likely to be neutral.

But their consequences could actually be adverse when fiscal fundamentals are weak. Consider a government which has a solvency problem, i.e., the market believes that the present value of its future primary surpluses will not be enough to pay off its debt outstanding today. One way for the government to restore balance to its budget is to let its nominal exchange rate depreciate, thereby lowering the real value of its domestic currency obligations; but since the swap lowers the outstanding stock of domestic currency obligations (the *tax base*), an even larger depreciation is called for (the *tax rate*) and this recognition could spur a speculative attack on foreign exchange reserves, triggering a crisis time.⁴⁰ Another reason is the interaction of the swap with existing investor portfolios, which in Russia’s case meant rising margin calls on the commercial banks’ holdings of government dollar-denominated paper purchased on margin, the

⁴⁰ A formal analytical statement of this argument can be found in Aizenman, Kletzer and Pinto (2005). For more on the Russian swap and why it failed, see Kharas, Pinto and Ulatov (2001) and Pinto, Gurvich and Ulatov (2005).

price of which fell with all the additional Eurobonds appearing in the market, leading to forced sales of GKO's and a downward spiral. Financial engineering is definitely not a free lunch and the hidden tab may be surprisingly high!

The situation was worsened because the swap was accompanied by a liquidity injection to reserves financed by implicitly senior debt from the IFIs. This would demote the claims of GKO holders and become the perfect time to exit, with the liquidity injection providing the means of escape. Kharas, Pinto and Ulatov (2001, p. 43) discuss how difficult it is to design an official rescue package for a country in the circumstances of Russia 1998. And much could have been learned from a timely post-mortem of Russia 1998, as Box 2 shows.

5. Concluding Remarks

In the case of Russia 1998, a fundamental inconsistency developed between the government's desire to vanquish inflation while maintaining large subsidies to what was perceived as a vulnerable manufacturing sector. This eventually placed the government's debt on an unsustainable trajectory, making such dynamics incompatible with Russia's fixed exchange rate. Financial globalization prolonged this unsustainable situation by financing the government's debt pyramid even after it was clear that the fiscal situation was unsustainable. The reasons why include moral hazard fueled by expectations that Russia would be "rescued" by a large official bailout.

Box 2: Lessons from the 2000-01 Argentine Crisis—Déjà Vu in Russia 1998?

A postmortem of the Argentine crisis of 2000-01 conducted by the Independent Evaluation Office of the IMF identified 10 lessons.^{a/} In our assessment, the following 4 were the key lessons from a macroeconomic point-of-view (some of the lessons are related to IMF processes) and we quote:

“Lesson 2. The level of sustainable debt for emerging market economies may be lower than had been thought, depending on a country’s economic characteristics. The conduct of fiscal policy should therefore be sensitive not only to year-to-year fiscal imbalances, but also to the overall stock of public debt.

Lesson 7. The catalytic approach to the resolution of a capital account crisis works only under quite stringent conditions. When there are well-founded concerns over debt and exchange rate sustainability, it is unreasonable to expect a voluntary reversal of capital flows.

Lesson 8. Financial engineering in the form of voluntary, market-based debt restructuring is costly and unlikely to improve debt sustainability if it is undertaken under crisis conditions and without a credible, comprehensive economic strategy. Only a form of debt restructuring that leads to a reduction of the net present value (NPV) of debt payments or, if the debt is believed to be sustainable, a large financing package by the official sector has a chance to reverse unfavorable debt dynamics.

Lesson 9. Delaying the action required to resolve a crisis can significantly raise its eventual cost, as delayed action can inevitably lead to further output loss, additional capital flight, and erosion of asset quality in the banking system. To minimize the costs of any crisis, the IMF must take a proactive approach to crisis resolution, including providing financial support to a policy shift, which is bound to be costly regardless of when it is made.”

But these were precisely the lessons from Russia 1998! Namely, that being within the Maastricht ceiling of 60 percent of GDP did not mean that debt was sustainable, one had also to look at market signals; that the catalytic approach can backfire when reserves are augmented with senior IFI loans in the presence of a fiscal solvency problem and actually trigger a crisis; that the market-based GKO-Eurobond swap only made matters worse; and that procrastination fed by continuing private capital inflows and official borrowing only led to a much bigger debt burden when the crisis hit. ^{b/}

^{a/}Independent Evaluation Office (IEO) of the IMF (2004), Executive Summary.
<http://www.imf.org/EXTERNAL/NP/IEO/2004/ARG/ENG/INDEX.HTM>

^{b/}Kharas, Pinto and Ulatov (2001).

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